

Amendments to the Claims

Please amend Claims 1, 7, 8, 13, 20 and 21. The Claim listing below will replace all prior versions of the claims in the application.

Claim Listing

1. (Currently Amended) A system comprising:
 - a remote storage center for storing a plurality of files in a local file system;
 - a local computer for utilizing at least one file stored at said remote storage center;
 - a first local device, coupled to said local computer and to said remote storage center, for operating as an active storage port, said active storage port for receiving file system operation requests on said file from said local computer, and for translating the file system operation requests to local file system requests including a file identifier associated with contents of the file to uniquely identify the file stored at the remote storage center, said local computer and said first local device being coupled through a communications ~~mechanisms~~ mechanism said active storage port further comprises a network interface, to couple said active storage port to said passive storage port, and processes to monitor the health of said active storage port and to enter ~~said~~ a failover condition if said health falls below a pre-determined threshold;
 - a second local device, coupled to said local computer and to said ~~remote~~ storage center, for operating as a passive storage port, said passive storage port for switching to said active storage port during ~~a~~ said failover condition, said local computer and said second local device being coupled through said communications mechanism utilized by said first local device, said passive storage port further comprises a network interface, to couple said passive storage port to said active storage port, and processes to query said active storage port to obtain a status of said health of said active storage port; and
 - additional local devices to support a 2N failover configuration of storage ports, wherein "N" represents any integer value.

2. Canceled.
3. (Previously Presented) The system as set forth in claim 1, wherein said communications mechanism comprises:
 - a network;
 - said first local device comprises a network interface that communicates on said network using a network address; and
 - said second local device comprises a network interface that communicates on said network after a failover condition using said network address of said first local device.
4. (Previously Presented) The system as set forth in claim 2, wherein said communications mechanism further comprises a network file system, such that said local computer exports said local file system using said network address to conduct said file system operations.
5. Canceled.
6. (Previously Presented) The system as set forth in claim 1, wherein said active storage port comprises a data cache, for storing said file, and a directory cache for storing file system information on said file.
7. (Currently Amended) The system as set forth in claim 6, wherein said first local device and said second local device further comprise network interfaces for communicating to said remote storage center.
8. (Currently Amended) An apparatus comprising:
 - first local device for operating as an active storage port for a remote storage center that stores at least one file in a local file system, said active storage port for receiving file system operation requests for said file, for generating

information for said file system operation, and for translating the file system operation requests to local file system requests including a file identifier associated with contents of the file to uniquely identify the file stored at the remote storage center, said first local device being accessed through a communications mechanism, said first local device further comprises a network interface, to couple said first local device to said second local device, and processes to monitor health of said first local device and to enter said a failover condition if said health falls below a pre-determined threshold;

second local device for operating as a passive storage port, said passive storage port for switching to said active storage port during a said failover condition to said active storage port, said second local device being accessed through said communications mechanism utilized by said first local device, said second local device further comprises a network interface, to couple said second local device to said first local device, and processes to query said first local device to obtain a status of said health of said first local device; and

additional local devices to support a 2N failover configuration of storage ports, wherein "N" represents any integer value.

9. Canceled.
10. (Original) The apparatus as set forth in claim 8, wherein said communications mechanism comprises:
 - a network;
said first local device comprises a network interface that communicates on said network using a network address; and
said second local device comprises a network interface that communicates on said network after a failover condition using said network address of said first local device.
11. Canceled.

12. (Original) The apparatus as set forth in claim 11, wherein said first local device and said second local device comprise a data cache, for storing said file, and a directory cache for storing file system information on said file.
13. (Currently Amended) The apparatus as set forth in claim 11, wherein said first local device and said second local device further comprise network interfaces for communicating to said remote storage center.
14. (Previously Presented) A method for configuring a storage system for failover operation, said method comprising:
 - storing a plurality of files in a local file system in a remote storage center;
 - utilizing at least one file stored at said remote storage center in a local computer;
 - coupling a first local device to said local computer and to said remote storage center;
 - operating said first local device as an active storage port by receiving file system operating requests for said file from said local computer, by transferring information for said file system operations and by translating the file system operation requests to local file system requests including a file identifier associated with contents of the file to uniquely identify the file stored at the remote storage center;
 - transferring information between said local computer and said first local device via a communication mechanism;
 - coupling a second local device to said local computer and to said remote storage center;
 - operating said a second local device as a passive storage port by switching said second device to an active storage port to execute a failover condition in said first local device; and
 - transferring information between said local computer and said second local device via said communication mechanism; and

coupling additional local devices to support a 2N failover configuration of storage ports, wherein “N” represents any integer value; and

coupling said first local device to said second local device;

monitoring the health of said active storage port;

submitting a query from said passive storage port to said active storage port to obtain a status of said health of active storage port; and

entering said failover condition if said health falls below a pre-determined threshold.

15. Canceled.

16. (Previously Presented) The method as set forth in claim 14, wherein:

transferring information between said local computer and said first local device via a communication mechanism comprises transferring information over a network using a network address; and

transferring information between said local computer and said second local device via a communication mechanism comprises transferring information over a said network using said network address of said first local device.

17. (Previously Presented) The method as set forth in claim 14, wherein:

transferring information between said local computer and said first local device via a communication mechanism comprises transferring information over a network using a network address;

transferring information between said local computer and said second local device via a communication mechanism comprises transferring information over a network using said network address of said first local device; and

exporting a network file system of said local computer over said network using said network address.

18. Canceled.

19. (Previously Presented) The method as set forth in claim 14, further comprising caching, in said active storage port, data for said file and file system information on said file.
20. (Currently Amended) The method as set forth in claim 14, further comprising coupling said active storage port to said remote storage center to receive data for said file and file system information on said file.
21. (Currently Amended) The system of claim 1, wherein the first local device and the second local device each further comprise:
 - a network interface capable of being coupled to the remote storage center;
 - a client interface capable of being coupled to the local computer; and
 - a cache capable of storing information at the storage port accessed from the remote storage center.